

PATENT CLAIMS

1. Electric motor, in particular a brushless electric motor, comprising a rotor, a stator, a motor housing receiving the rotor and the stator, a first bearing, disposed on the motor housing on a first side of the rotor, and a second bearing, disposed on a second side of the rotor lying opposite the first side, for the rotatable mounting of the rotor about a rotor axis, the motor housing comprising a housing body, which receives the stator, and a flange body, which receives the second bearing and can be mounted on the housing body, the flange body, when it is in an axial end position in relation to the rotor axis, being guided on the housing body against a movement transversely to the rotor axis and being fixed in relation to the housing body against a movement in the direction of the rotor axis by means of first positively connecting features, provided on the flange body, and second positively connecting features, provided on the housing body, which features can be brought into operative connection with one another by a relative movement of the flange body and housing body.
2. Electric motor according to claim 1, wherein the positively connecting features are formed in such a way that they can be brought into engagement with one another by a relative movement with respect to one another in the direction of the rotor axis.

3. Electric motor according to claim 1, wherein the positively connecting features are formed in such a way that they can be fixed relative to one another against a movement in the direction of the rotor axis by a turning movement relative to one another about the rotor axis.
4. Electric motor according to claim 2, wherein the positively connecting features interact in the manner of a bayonet fastener.
5. Electric motor according to claim 1, wherein the one positively connecting features are formed by path followers and the other positively connecting features are formed by guide paths for the path followers.
6. Electric motor according to claim 1, wherein a single axial end position of the flange body in relation to the housing body can be fixed by the positively connecting features.
7. Electric motor according to claim 1, wherein the positively connecting features are formed in such a way that, in the axial end position, the flange body can be turned in relation to the housing body without changing this axial end position.
8. Electric motor according to claim 1, wherein the flange body can be brought into the axial end position while being guided by guiding elements acting parallel to the rotor axis.
9. Electric motor according to claim 1, wherein the flange body can be inserted into an opening in the housing body.

10. Electric motor according to claim 9, wherein a circumferential surface of the flange body and an inner surface of the opening, facing the flange body, form the guiding elements.
11. Electric motor according to claim 9, wherein the second positively connecting features are disposed at the opening in the housing body receiving the flange body.
12. Electric motor according to claim 11, wherein the second positively connecting features are disposed in the housing body in the region of an inner surface of the opening, facing the inserted flange body.
13. Electric motor according to claim 9, wherein the first positively connecting features are disposed on a side of the flange body facing the opening.
14. Electric motor according to claim 13, wherein the first positively connecting features are disposed on the circumferential surface of the flange body.
15. Electric motor according to claim 9, wherein the opening is an access opening for an interior space of the housing body.
16. Electric motor according to claim 15, wherein the opening in the housing body is dimensioned in such a way that the rotor can be inserted through it into the motor housing.

17. Electric motor according to claim 1, wherein the second bearing is supported in the axial direction on the flange body by means of a resilient element.
18. Electric motor according to claim 1, wherein the flange body has a receptacle for the second bearing, in which the second bearing is movable in the axial direction with respect to the rotor axis in relation to the flange body.
19. Electric motor according to claim 18, wherein the receptacle for the second bearing is formed as a hollowing-out provided in the flange body.
20. Electric motor according to claim 1, wherein at least one sensor sensing rotational movements of the rotor is disposed on a side of the flange body facing the rotor.
21. Electric motor according to claim 20, wherein the at least one sensor is formed as a magnetic field sensor facing sensor magnets of the rotor.
22. Electric motor according to claim 20, wherein a sensor board with the at least one sensor is disposed on a side of the flange body facing the rotor.
23. Electric motor according to claim 22, wherein the sensor board can be simultaneously turned with the flange body.
24. Electric motor according to claim 23, wherein the sensor board is fixedly connected to the flange body.

25. Electric motor according to claim 23, wherein the sensor board is connected to the flange body by means of positively connecting elements.
26. Electric motor according to claim 22, wherein the second bearing is disposed on the flange body on a side of the sensor board facing away from the rotor.
27. Electric motor according to claim 22, wherein a cable leading away from the sensor board is led through a cut-away portion in the flange body.
28. Electric motor according to claim 27, wherein the cut-away portion is open toward an outer side of the flange body.
29. Electric motor according to claim 1, wherein the flange body can be fixedly connected to the housing body.
30. Electric motor according to claim 1, wherein the housing body has on a side lying opposite the flange body a bearing flange receiving the first bearing.
31. Electric motor according to claim 30, wherein the bearing flange is connected integrally to a housing casing of the housing body.
32. Electric motor according to claim 1, wherein the housing body is formed from a cured composition embedding the stator.